Chapter Two

Contextualising Educational ICTs at The University of Jos

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1. Introduction

The city of Jos is the capital of Plateau State, with 18 local governments. Jos has a population of about 1. 5 million. The plateau maintains an average height of 1200 metres above sea level, with an equable temperature averaging 22ºC. The University of Jos, established in 1975, is spread across multiple campuses with over 20,000 full time and 16,500 part time students. The Head of State is the Visitor[1] to the university. The governing body is the University Council, and the highest academic body is the University Senate.
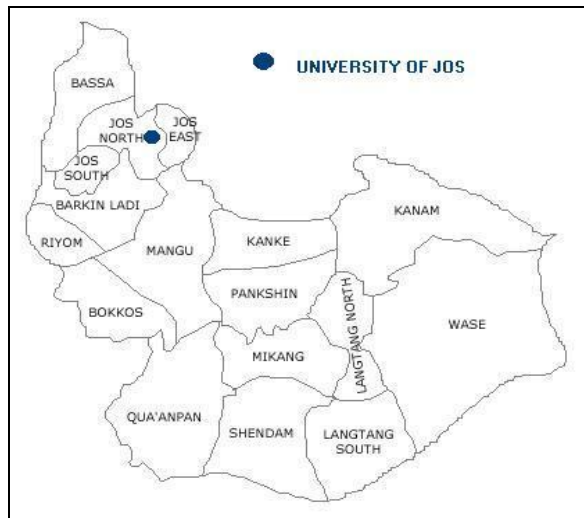

Figure 1: Local Governments of Plateau State. Courtesy Plateau State Ministry of Information

The University of Jos is an accepted leader in ICT in the Nigerian University System (NUS), and has made giant strides in the last decade. (Yahya et al 2011). During this decade the full time student population grew from 10,707 to 21,511. The number of departments also

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[1] The Visitor in a Nigerian university is the same as the Chancellor in universities in some other countries.

rose from 40 to 58 as the number of women professors went from 18 to 52, in a 69% increase. [Courtesy Directorate of Academic Planning and Management, 2012]

Figure 2: Professor N. Gomwalk, Vice Chancellor, 1994-1999

Visionary leadership under Vice Chancellor, Professor Nenfort Gomwalk laid a strong foundation for transformation. Gomwalk had a strong commitment to use ICT in higher education and put the basic ICT infrastructure in place. He accorded ICT the highest priority and supported ICT human resource development in an era of very scarce resources. Under Gomwalk, Jos became the first Nigerian university to embrace strategic planning. The institution's first comprehensive strategic plan covered the five-year period 1998-2003.
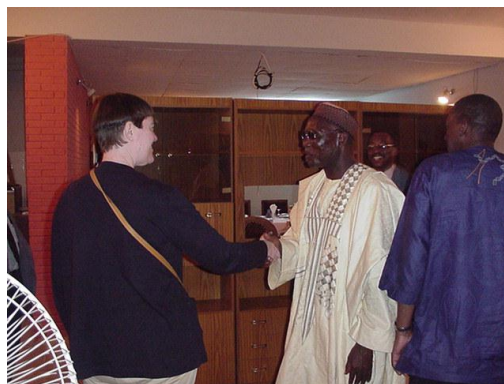

Figure 3: Vice Chancellor,2000-2006, Professor Mangvwat and Ms. Andrea Johnson of Carnegie Corporation of New York.Courtesy Jos Carnegie Partnership Archives

With a commitment to build on the foundation of his predecessor, Vice Chancellor, Professor Monday Mangvwat used the first strategic plan to secure Carnegie Corporation support for the University of Jos. His administration produced the winning proposal for the first two tranches of a nine- year, three-tranche partnership. He led by example, with

modesty and commitment. He nurtured a culture of multi stakeholder participation and selfless service, in an open and transparent administration. Consequently the university community became more aware of its great potential. With the support of the Jos Carnegie Partnership, prospects for institutionalising ICT at the University of Jos grew exponentially.

Carnegie Corporation's support was requested for consolidation in ICT, an area of strength and innovation of the university. It was also used to address identified weaknesses in the areas of university funding, gender equity, and staff development. [University of Jos, 2003]. Essentially this meant facilitating the implementation of the university's strategic plan, and strengthening the institution as a whole. The University thus targeted the greater part of Carnegie funding at fostering further development of ICT. UniJos has been innovative, flexible, and responsive as our leadership, staff and students continue to put more time, energy and money into ICT with significant returns. ICT was the major area of targeted university investment in the five years preceding the partnership.
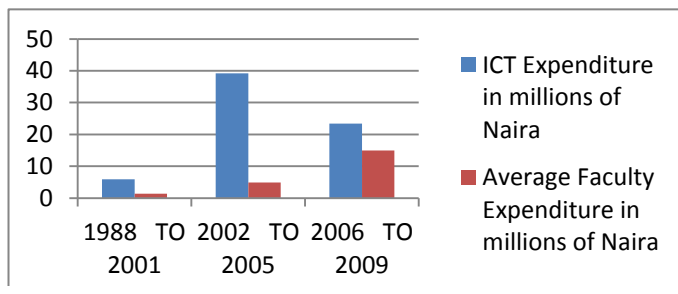

Figure 4: Comparative Expenditure on ICT and Faculty

The chart above compares average operating costs of faculties with costs for ICT activities over a 22-year period. It confirms an exceptional commitment by the university to a higher level of funding for ICT, than an average faculty.

The ICT Intervention of the Jos Carnegie Partnership has enhanced the commitment of the University to transform governance, research, teaching, and learning through the integration of ICT in the delivery of all services. ICT infrastructure has been enhanced through the development of a robust Network Information Services (NIS). A tradition of training and retraining of ICT functionaries has been entrenched. The library is going digital with Online Public Access Catalogue (OPAC) and the Dspace repository. The university has documented the development of ICT in a book. [2006]. *http://www.unijos.edu.ng/About/History%20of%20Communication.pdf.*

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Student registration has become digitised through the in-house development of a student information system. A digital transcript project is coming to a successful end, as an innovative student internship program becomes an entrenched tradition. A university ICT policy is operational with an eLearning strategy set to change teaching and learning, in line with local needs and 21st century trends. The university now uses technology to make teaching more interactive and learning more pleasurable. Impact assessment and student performance studies are taking root. Activities are ongoing to institutionalise eLearning complemented with an innovative eLearning fellowship to train academic staff.

During the tenure of Vice Chancellor, Professor Sonny Tyoden- a research management intervention was introduced as consolidation continued.

Figure 5: Professor Tyoden, Vice Chancellor 2006-2011

The Tyoden administration successfully concluded the second tranche and produced the winning proposal for tranche 3 of the Jos Carnegie Partnership. Professor Tyoden set up the new Faculty of Management Sciences and increased student intake significantly. Gender, ICT and Research Management policies were put in place. By the end of his tenure, the university was ranked second best in Nigeria for web presence. (see http://africanbrains.net/2011/02/22/africas-top-100-universities-feature-8-from-nigeria/).

ICT at UniJos is such a Nigerian success story because succeeding Vice Chancellors were committed to building on the foundation of their predecessors. Vice Chancellor Professor Hayward Mafuyai has now taken the mantle of leadership. His first major move is to acquire a dedicated electric power line for the university. Investing heavily on back- up for the data center and critical devices on other parts of the ICT network is a realisation of the university dream of an "Oasis of Power".

Figure 6: Professor Mafuyai-The Current Vice Chancellor

In the rest of this second chapter of the book, we put the rise of the University of Jos to a leader in ICT in the NUS, in perspective. We display how UniJos uses a tradition of innovation and partnership to accomplish strategic ICT goals. In doing so, we document with data, the successes of an internship program and the training of thousands of Cisco graduates for the Nigerian ICT sector. The chapter ends with the first insights into how Nigerian HEIs are preparing scholars to contribute to the global marketplace of ideas using ICT.

2. Building on a Tradition of Innovation

The University of Jos as an ICT leader in the Nigerian University System has been innovative, flexible, and responsive. Our leadership, staff and students continue to put more time, energy and money into ICT with significant returns. The ICT internship is a shining example of building on a tradition of innovation. It could be rightly viewed as a successful partnership with students. In line with the University's tradition to innovate, network and share, we have partnered with the Cisco Academy to train Nigerians. We have used on-line resources and eLearning to provide them with scarce ICT skills. UniJos has mentored over thirty Cisco academies across Nigeria, thus producing thousands of Cisco graduates for the Nigerian ICT sector. UniJos innovates, networks and shares internally as well as externally.

Stimulated by the innovation and gains of the Law Faculty, the Department of Mathematics introduced its own Technology for Teaching (TfT) initiative in 2003. As a result an eLearning fellowship is now in place and the Department of English is emerging as another leader, teaching with technology.

2.1 The Internship Program: Conceptualized and implemented from the late 1990s, the idea is to systematically train students from all faculties to provide a range of ICT services to the university. In the last ten years the number of interns has grown exponentially, from 15 to 83. Women are active interns and their participation ranges between 20% and 52% each year. Undergraduates from all disciplines receive training as interns and give service to the university in return. Interns partner with ICT staff to manage all aspects of network development, software training and systems design. They relish the opportunity to work with the hardware and software. They prove to be eager learners and highly productive workers. The program, as configured, is unique to the University of Jos and demonstrates the significant contribution students can make to any university's ICT endeavours. Students have the talent, the drive and the time to develop expertise in new areas. Both parties benefit. The university receives the benefit of the interns' labour and the interns gain valuable hands on, real world experience. The internship is an innovative way to address the shortage of staff and skills as a university grows its ICT infrastructure services and activities.
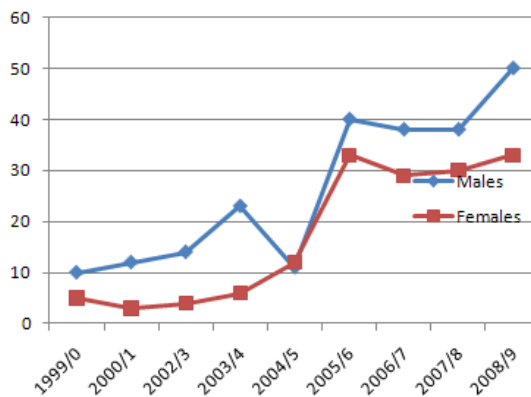

Figure 7: Number of Student Interns by Gender, 1999-2009. Courtesy ICT Directorate

2.2 The UniJos Cisco Academy: Registered in 200l, the academy began classes the following year. Currently, the academy offers the Cisco Certified Network Administrator (CCNA), IT Essentials and Fundamentals of wireless LAN curricula. The academy has shown a commitment to quality, gender and growth, winning many laurels from the Cisco Networking Academy Program in Africa. With 30% of enrolment reserved for women, the Female Support Intervention of the Jos Carnegie Partnership provided 50% of the tuition fees each year between 2004 and 2010. The program has produced 653 graduates. The percentage of women peaked when 39.5% of "IT Essentials" graduates were women. In line

with the University's tradition to network and share, the Jos academy mentors and produces skilled human resources for the Nigerian ICT sector.

2.3 Partnering for Success: The University of Jos has a long history of working with individuals and organisational partners to accomplish strategic goals. From Cisco to Carnegie and from Nigerian Communication Commission to NetTel@Africa; we have partnered with AVOIR, Datashphir, the NUC and the Widernet project of the University of Iowa. [University of Jos 2006]. Recently, the ICT mathematics intervention (Chapter 3) initiated under the Jos Carnegie Partnership won additional grants from the HP Technology for Teaching, and the World Bank Assisted STEPB projects. These resources have been used to pursue blended eLearning activities and impact assessment.

Under the Partnership for Higher Education in Africa, an Educational Technology Initiative is the latest UniJos partnership. It pursues the enhancement of the quality of teaching, learning, research and the delivery of administrative services. The project seeks to drive skills development, eLearning entrenchment, and general adoption of an eLearning culture providing a platform for increased participation in the learning process. The resolve of the university to pursue its eLearning strategy with the support of so many partners is a concerted effort to foster radical change.

3. eLearning at the University of Jos

Advances in ICT have revolutionised higher education in many ways; for example, increasing access to post-secondary instruction, improving the availability of educational resources, and facilitating meaningful interaction among learners. Harnessing the power of ICT has become a critical strategy among institutions eager to offer an affordable, efficient, and flexible learning environment for rapidly growing and diverse communities of learners. Many scholars have viewed distance and online education as alternative, sometimes inferior, education for individuals with limited access to traditional higher education institutions (HEIs) or those not committed to deep learning. [Rich 2008]

Today, technology enhanced learning, including distance and online instruction, is recognised as a viable tool necessary for preparing citizens to participate in the technologically driven global environment. A multidisciplinary approach to online pedagogical research recognizes the value of technology enhanced teaching and learning as critical in the mix of diverse strategies. Its centrality in the global marketplace has been enhanced by a new culture shared by many educators - a culture diametrically opposed to elitist views of education as a privilege, and rooted in the belief that a more open education system enables increased contribution to the global marketplace of ideas. This

new culture empowers citizens of the world to share knowledge globally. The culture has been exemplified by an open movement, with diverse champions from remote village classrooms to ivory towers.

Nigerian HEIs must prepare their scholars and graduates to contribute to the global marketplace of ideas. Adopting an appropriate strategy for introducing ICT for teaching and learning enables Nigerian HEIs to actualise their full potential. In efforts to rapidly introduce technologies for teaching, many universities may adopt models and content developed for and in other contexts. While there is much to be learned from the experiences of others, it is critical that Nigerian HEIs work together toward building models to address specific challenges unique to the Nigerian situation. Building a community of practice, where Nigerian HEIs can share experiences and collaborate to address the challenges inhibiting the efforts to integrate technologies for teaching is the first small step in doing so. [Liverpool et al 2011].

 For the last three decades, the National Universities Commission has worked to lay the foundation for eLearning through investment in ICT infrastructure, management information systems, e-mail access and library information services. Still, many institutions find it difficult to conceptualise and implement initiatives locally. There have been essentially three kinds of eLearning initiatives in Nigerian HEIs – local initiatives, corporate initiatives, and international partnerships. First, local initiatives are conceived and developed using local resources. Corporate initiatives – such as Cisco and Microsoft programmes – are developed abroad and delivered in Nigeria extensively through academies which are hosted in HEIs. The third kind has been developed through international cooperation. For example, the NetTel@Africa telecommunication management post graduate programme is sponsored by the Nigerian Communications Commission in partnership with regional stakeholders united in their desire to increase the capacity of the African ICT sector.

The University of Jos is priviledged, with experience of all three kinds of eLearning initiatives. While each type of initiative holds key benefits, it is important to develop models to support and improve national initiatives. The challenges experienced in Nigeria are not unlike those experienced elsewhere. For example, the EDUCAUSE (http://www.educause.edu/eli/Challenges) identifies five challenges in teaching and learning with technology: (1) Creating learning environments that promote active learning, critical thinking, collaborative learning, and knowledge creation; (2) Developing 21st century literacy (information, digital, and visual) among students and faculty; (3) Reaching and engaging today's learner; (4) Encouraging faculty adoption and innovation in teaching

and learning with IT; and (5) Advancing innovation in teaching and learning with technology in an era of budget cuts. These challenges mirror the ones facing Nigerian HEIs.

In addition to creating models for addressing these challenges, (Liverpool et al, 2011), a central purpose of UniJos is to create a community of practice with other trail blazers in the Nigerian eLearning space. As we move through the second decade of the twenty first century, Nigerian universities in particular, and African universities, in general, must fall in line and embrace impending changes. With new vigour, we have to face the future and explore the challenges of developing and retaining the next generation of academics (Tetteh, 2010). We must do so by working together, in our community of practice, alongside our partners. We discuss how UniJos works with blended eLearning in a community of practice for two specific disciplines in Chapters 3 and 9. Creating Champions for Massification and Sustainability through the eFellowship program shows how the university builds capacity across disciplines, in Chapter 5.

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